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OPERATING INSTRUCTIONS

"HYDRA-SWAGE" TUBE EXPANDING TOOL KIT — MODEL# 71600-A



BEDIENUNGSANLEITUNG

"HYDRA-SWAGE" ROHR PRESSWERKZEUG SATZ — MODEL# 71600-A

MANUEL D'OPÉRATION

"HYDRA-SWAGE" ENSEMBLE D'OUTILLAGE HYDRAULIQUE POUR L'EXPANSION DES TUBES — MODÈLE# 71600-A

INSTRUCCIONES DE OPERACION

"HYDRA-SWAGE" CONJUNTO HERRAMIENTAS PARA EXPANSIÓN DE TUBOS — MODELO# 71600-A

ISTRUZIONI PER L'USO

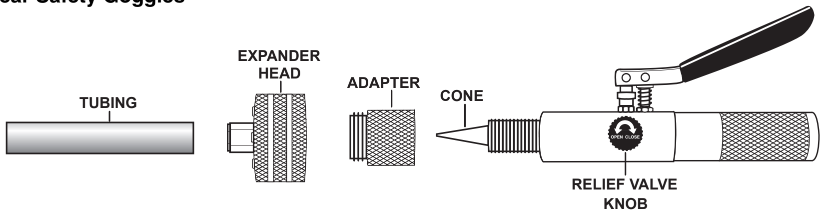
"HYDRA SWAGE" KIT ALLARGATUBO IDRAULICO — MODELLO# 71600-A

MANUAL DE OPERAÇÃO

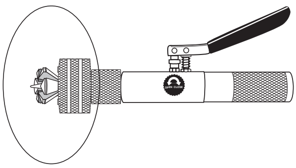
KIT "EXPANSOR HIDRAULICO" PARA TUBOS — MODELO# 71600-A

WARNING

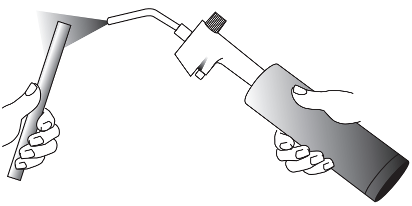
Wear Safety Goggles



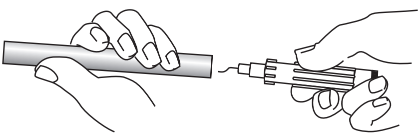
NEVER OPERATE PUMP WITHOUT TUBING ON EXPANDER HEAD!



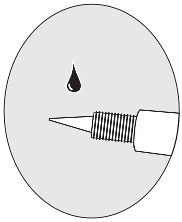
1) Use soft copper tube or heat (anneal) the section of hard copper tubing to be expanded.



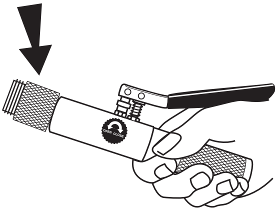
2) De-burr the inner walls of the tubing completely and make sure the tube will fit easily over the expander head.
DO NOT FORCE THE TUBE OVER THE EXPANDER HEAD!



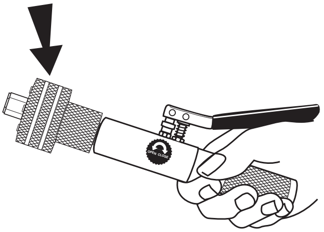
3) Apply lubricant (preferably grease) to the cone before using.



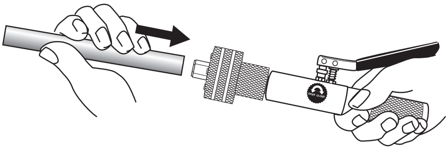
4) Screw the adapter onto the shaft of the pump all the way.



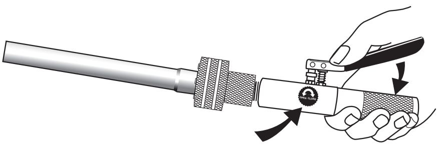
5) Screw the selected expander head onto the adapter.



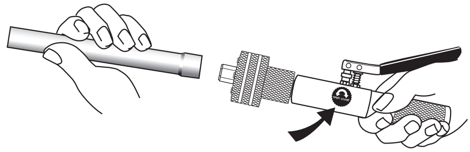
6) Place the tubing onto the expander head. Make sure that the expander head travels into the tube FREELY.
WARNING!! Do not force or twist the tube while you are placing the tube on the expander head.



7) Tighten the relief valve knob and pump handle until tubing is expanded and pump handle becomes firm.



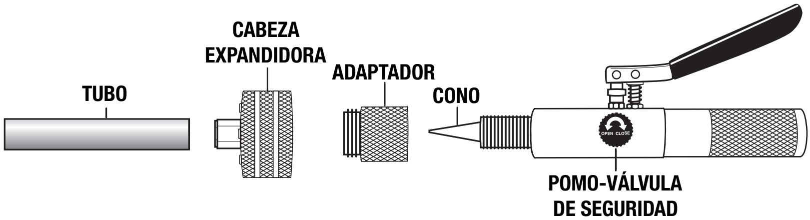
8) Loosen the relief valve knob to release the finished tubing. If the tube does not release from the die head because of tube configuration or burrs, unscrew the adapter and die head (together) from the pump body.



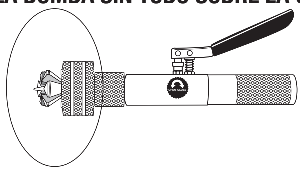
PARTS LIST		
PART#	**DESCRIPTION**	**TUBE O.D.**
71600-03	Expander Head	3/8”
71600-04	Expander Head	1/2”
71600-05	Expander Head	5/8”
71600-06	Expander Head	3/4”
71600-07	Expander Head	7/8”
71600-08	Expander Head	1”
71600-09	Expander Head	1 1/8”
71600-11	Expander Head	1 3/8”
71600-13	Expander Head	1 5/8”
71600-17	Expander Head	2 1/8”
71601-A	Hydra-Swage	
71601-D	Adapter for 71601	
71685	Inner - Outer Reamer	
71600-PB	Molded Box for 71600 & 71650	
METRIC		
PART#	**DESCRIPTION**	**TUBE O.D.**
71600-10M	Expander Head	10mm
71600-12M	Expander Head	12mm
71600-15M	Expander Head	15mm
71600-16M	Expander Head	16mm
71600-18M	Expander Head	18mm
71600-22M	Expander Head	22mm
71600-28M	Expander Head	28mm
ALSO AVAILABLE		
71600-002	Expander Head	1/4”
71680	Hydraulic Flaring Accessory • Make OEM flares with a simple pump of the handle.	

ADVERTENCIA

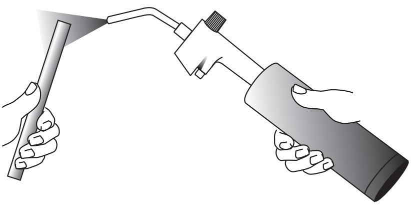
Use Anteojos de Seguridad



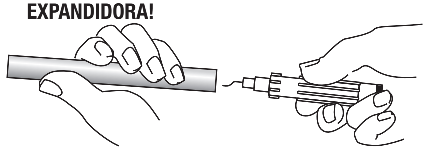
NUNCA DEBE USARSE LA BOMBA SIN TUBO SOBRE LA CABEZA EXPANDIDORA!



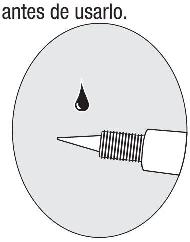
1) Utilice tubo de cobre recocido o caliente la sección (recocer) de tubo de cobre a ser expandido.



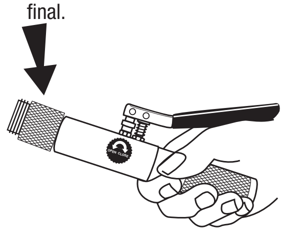
2) Rebordear el interior del tubo, a fin que el tubo pase fácilmente sexpandidora.
NO FORZAR EL TUBO SOBRE LA CABEZA EXPANDIDORA!



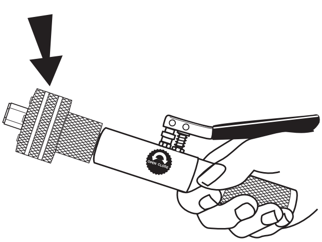
3) Aplicar un lubricante (preferentemente grasa) sobre el cono antes de usarlo.



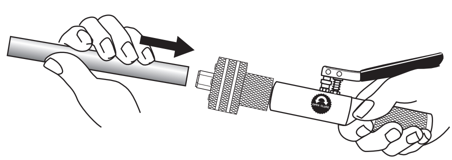
4) Roscar el adaptador al eje de la bomba hasta el final.



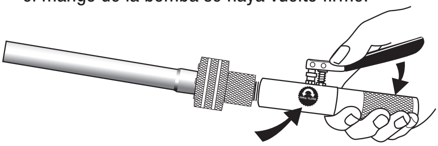
5) Roscar la cabeza expandidora elegida al adaptador.



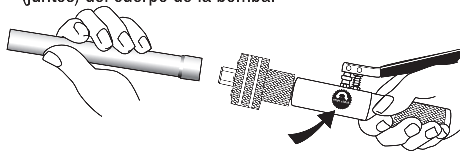
6) Colocar el tubo en la cabeza expandidora, asegúrese que la cabeza expandidora pueda deslizarse libremente.
ATENCIÓN!! No forzar ni girar el tubo mientas está poniendo el tubo en la cabeza expandidora.



7) Apretar el pomo de la válvula de seguridad y bombear mediante el mango hasta que el tubo sea expandido y el mango de la bomba se haya vuelto firme.



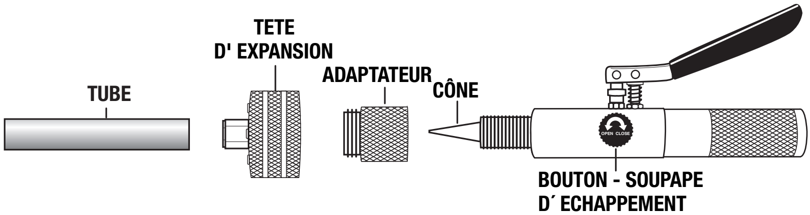
8) Aflojar el pomo de la válvula de seguridad para poder liberar el tubo. Si el tubo no se pudiera separar de la cabeza de expansión por motivos de configuración del tubo o rebabas, desenroscar el adaptador y la cabeza (juntos) del cuerpo de la bomba.



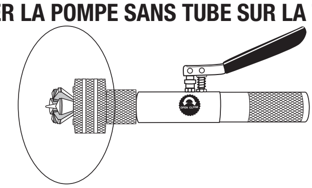
LISTA DE PIEZAS		
REF.	**DESCRIPCIÓN**	**DIÁMETRO EXT. TUBERÍA**
71600-03	Cabeza Expandidora	3/8”
71600-04	Cabeza Expandidora	1/2”
71600-05	Cabeza Expandidora	5/8”
71600-06	Cabeza Expandidora	3/4”
71600-07	Cabeza Expandidora	7/8”
71600-08	Cabeza Expandidora	1”
71600-09	Cabeza Expandidora	1 1/8”
71600-11	Cabeza Expandidora	1 3/8”
71600-13	Cabeza Expandidora	1 5/8”
71600-17	Cabeza Expandidora	2 1/8”
71601-A	Hydra-Swage	
71601-D	Adaptador para 71601	
71685	Escariador interior - exterior	
71600-PB	Estuche transporte para 71600 y 71650	
MÉTRICO		
REF.	**DESCRIPCIÓN**	**DIÁMETRO EXT. TUBERÍA**
71600-10M	Cabeza Expandidora	10mm
71600-12M	Cabeza Expandidora	12mm
71600-15M	Cabeza Expandidora	15mm
71600-16M	Cabeza Expandidora	16mm
71600-18M	Cabeza Expandidora	18mm
71600-22M	Cabeza Expandidora	22mm
71600-28M	Cabeza Expandidora	28mm
TAMBIÉN DISPONIBLE		
71600-002	Cabeza Expandidora	1/4”
71680	Accessorio Abocinador Hidráulico • Hacer abocinado OEM con un simple movimiento de la mantilla de la bomba.	

CAUTION

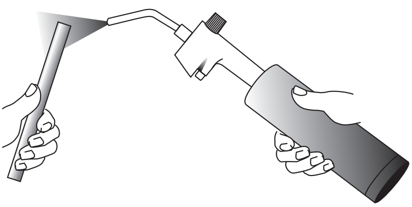
Porter Lunettes de Protection



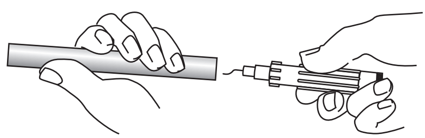
NE JAMAIS OPERER LA POMPE SANS TUBE SUR LA TETE D'EXPANSION!



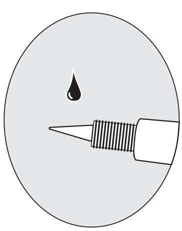
1) Utilisez du cuivre recuit ou chauffez doucement la section du cuivre dur prévu à l'élargissement.



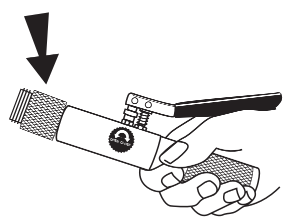
2) Ebarbez l'intérieures du tube, afin que le tube passe facilement au dessus de la tête d'expansion. **NE FORCEZ PAS LE TUBE SUR LA TETE D'EXPANSION!**



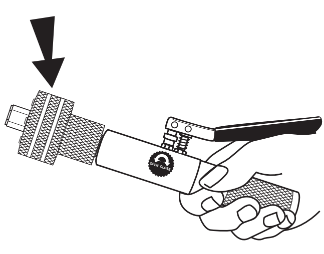
3) Appliquez un lubrifiant (de préférence de la graisse) sur le cône avant d'en faire usage.



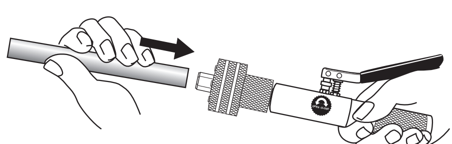
4) En vue de l'expansion vissez l'adaptateur a fond sur l'axe de la pompe.



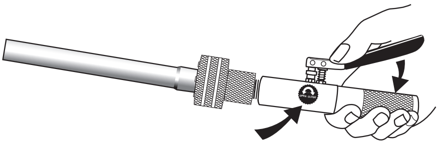
5) Vissez la tête d'expansion sélectionnée sur l'adaptateur.



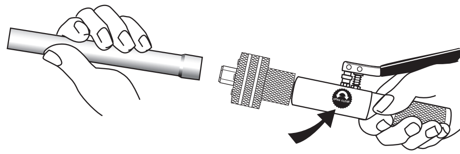
6) Placez le tube sur la tête d'expansion. Assurez vous d'un passage aisé de la tête d'expansion. **ATTENTION!! Ne forcez ni tournez le tube pendant son placement sur la tête d'expansion.**



7) Serrez le bouton de la vanne d'évacuation et pompez au moyen de la poignée jusqu'à l'élargissement du tube et jusqu'à la résistance de la pompe.



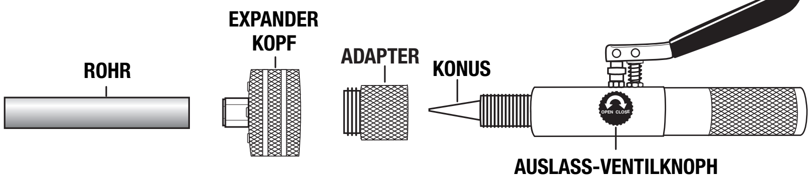
8) Dévissez le bouton de la soupape d'échappement afin de libérer le tube. Si le tube n'est pas libéré de la tête d'expansion pour des raisons de configuration ou bavures, dévissez les deux, l'adaptateur et la tête d'expansion du corps de la pompe.



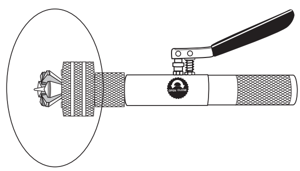
LISTE DES PIECES		
PIECE No	**DESCRIPTION**	**DIA. DE TUBE EXT.**
71600-03	Tête d'expansion	3/8"
71600-04	Tête d'expansion	1/2"
71600-05	Tête d'expansion	5/8"
71600-06	Tête d'expansion	3/4"
71600-07	Tête d'expansion	7/8"
71600-08	Tête d'expansion	1"
71600-09	Tête d'expansion	1 1/8"
71600-11	Tête d'expansion	1 3/8"
71600-13	Tête d'expansion	1 5/8"
71600-17	Tête d'expansion	2 1/8"
71601-A	Hydra-Swage	
71601-D	Adaptateur pour 71601	
71685	Elargisseur intérieur - extérieur	
71600-PB	Boite moulée pour 71600 et 71650	
METRIQUE		
PIECE No	**DESCRIPTION**	**DIA. DE TUBE EXT.**
71600-10M	Tête d'expansion	10mm
71600-12M	Tête d'expansion	12mm
71600-15M	Tête d'expansion	15mm
71600-16M	Tête d'expansion	16mm
71600-18M	Tête d'expansion	18mm
71600-22M	Tête d'expansion	22mm
71600-28M	Tête d'expansion	28mm
ÉGALEMENT DISPONIBLE		
71600-002	Tête d'expansion	1/4"
71680	Accessoire Pour Le Dudgeon Hydraulique • Assurez-fusées OEM avec une simple pompe de la poignée.	

WARNUNG

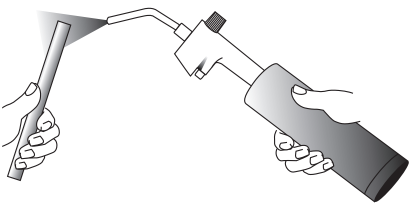
Schutzbrille Tragen



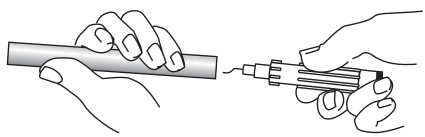
NIEMALS DIE PUMPE OHNE ROHR ODER EXPANDERKOPF BETÄTIGEN!



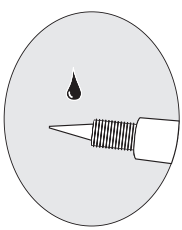
1) Benutzen Sie weiche Kupferrohre oder erwärmen Sie die zu expandierende Stelle.



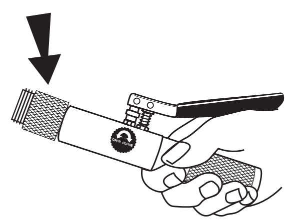
2) Innere Rohrwände vollständig entgräten, so daß das Rohr über dem Expanderkopf paßt.
DAS ROHR NICHT MIT GEWALT ÜBER DEN EXPANDERKOPF DRUCKEN!



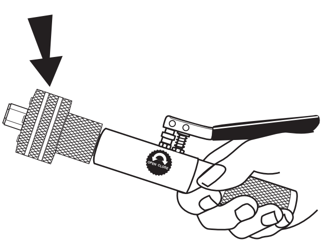
3) Schmiermittel, wenn möglich Fett, vor dem Expandieren auf den Konus auflegen.



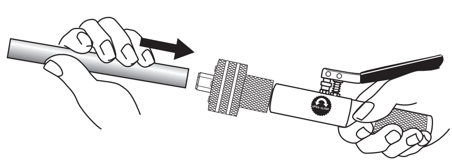
4) Adapter vollständig auf dem Pumpenstiel schrauben.



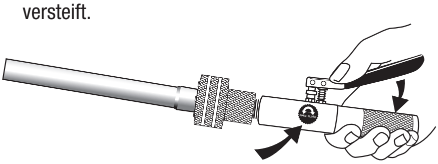
5) Adapter auf dem gewählten Expanderkopf aufschrauben.



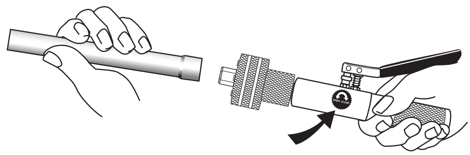
6) Rohr am Expanderkopf anbringen und sich vergewissern, dass der Expanderkopf leicht in das Rohr hinein gleitet. **WARNUNG!! Das Rohr darf nicht mit Gewalt auf den Expanderkopf geschoben oder gedreht werden.**



7) Auslaß-Ventilknopf und Pumpengriff anziehen bis das Rohr erweitert ist und der Pumpengriff sich versteift.



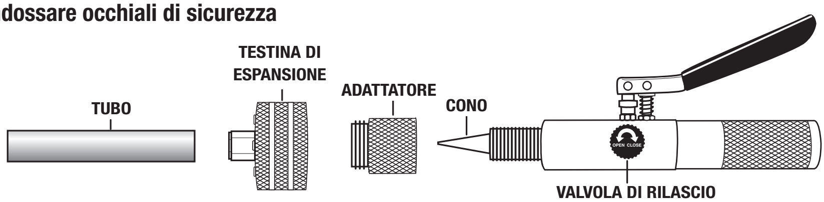
8) Auslass Ventilknopf lösen um das Rohr zu erweitern. Sollte das Rohr sich nicht vom Expanderkopf wegen Rohrgestaltung oder Gräte lösen, dann den Adapter und Expanderkopf zusammen von der Pumpe abschrauben.



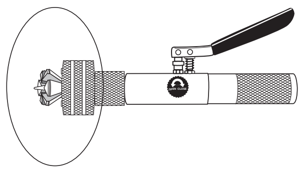
ERSATZTEIL LISTE		
TEIL No	**BESCHREIBUNG**	**ROHR DURCHMESSER (außen)**
71600-03	Expanderkopf	3/8”
71600-04	Expanderkopf	1/2”
71600-05	Expanderkopf	5/8”
71600-06	Expanderkopf	3/4”
71600-07	Expanderkopf	7/8”
71600-08	Expanderkopf	1”
71600-09	Expanderkopf	1 1/8”
71600-11	Expanderkopf	1 3/8”
71600-13	Expanderkopf	1 5/8”
71600-17	Expanderkopf	2 1/8”
71601-A	Hydra-Swage	
71601-D	Adapter für 71601	
71685	Innen - Außen Nachbearbeitung	
71600-PB	Kunststoffkoffer für 71600 & 71650	
METRISCHE		
TEIL No	**BESCHREIBUNG**	**ROHR DURCHMESSER (außen)**
71600-10M	Expanderkopf	10mm
71600-12M	Expanderkopf	12mm
71600-15M	Expanderkopf	15mm
71600-16M	Expanderkopf	16mm
71600-18M	Expanderkopf	18mm
71600-22M	Expanderkopf	22mm
71600-28M	Expanderkopf	28mm
VERFÜGBAR		
71600-002	Expanderkopf	1/4”
71680	Hydraulik Bördel Zubehör • Stellen Sie OEM Fackeln mit einer einfachen Pumpe des Griffs.	

ATTENZIONE

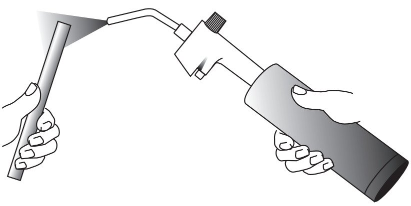
Indossare occhiali di sicurezza



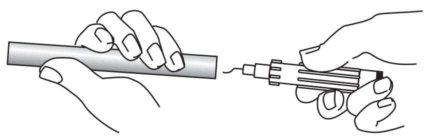
NON UTILIZZARE MAI LA POMPA SENZA IL TUBO NELLA TESTINA DI ESPANSIONE



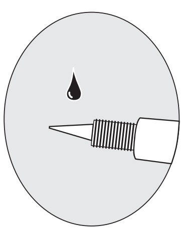
1) Utilizzare rame morbido o scaldare il tubo se si utilizza rame duro



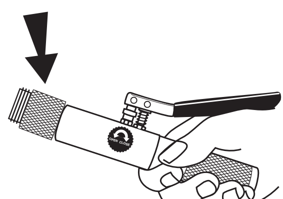
2) Pulire bene il tubo internamente e assicurarsi che il tubo entri bene nella testina. **NON FORZARE IL TUBO SULLA TESTINA.**



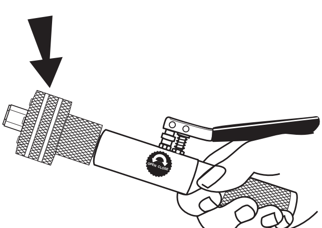
3) Mettere il lubrificante (meglio grasso) nel cono prima dell'uso



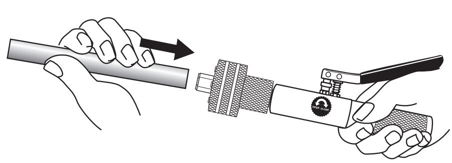
4) Avvitare l'adattatore fino a fine corsa



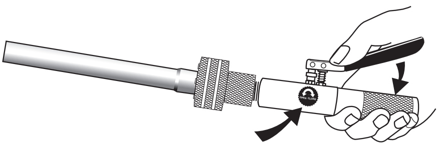
5) Avvitare la testina di espansione selezionata sull'adattatore



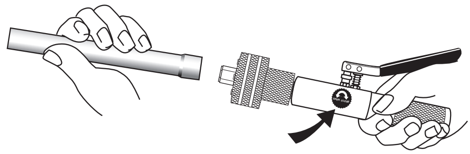
6) Mettere il tubo nella testina. Assicurarsi che il tubo sia libero.
ATTENZIONE: Non forzare il tubo sulla testina di espansione



7) Chiudere la valvola di rilascio e pompare fino a che il tubo sia espanso e la maniglia diventa dura



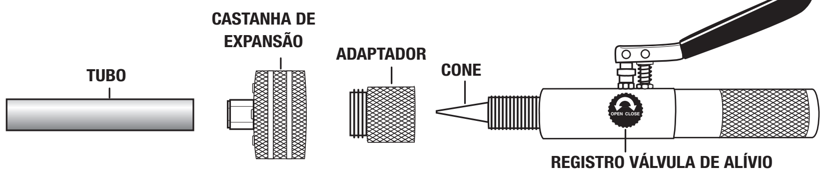
8) Aprire la valvola di rilascio per togliere il tubo dalla testina. Se il tubo non esce dalla testina svitare l'adattatore e rimuoverlo con la testina dal corpo pompa



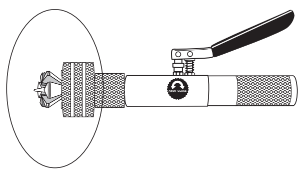
LISTA PARTI		
PART#	**DESCRIZIONE**	**TUBE O.D.**
71600-03	Testina di espansione	3/8"
71600-04	Testina di espansione	1/2"
71600-05	Testina di espansione	5/8"
71600-06	Testina di espansione	3/4"
71600-07	Testina di espansione	7/8"
71600-08	Testina di espansione	1"
71600-09	Testina di espansione	1 1/8"
71600-11	Testina di espansione	1 3/8"
71600-13	Testina di espansione	1 5/8"
71600-17	Testina di espansione	2 1/8"
71601-A	Hydra-Swage	
71601-D	Adattatore per 71601	
71685	Sbavatubo	
71600-PB	Valigetta in plastica per 71600 e 71650	
METRICO		
PART#	**DESCRIZIONE**	**TUBE O.D.**
71600-10M	Testina di espansione	10mm
71600-12M	Testina di espansione	12mm
71600-15M	Testina di espansione	15mm
71600-16M	Testina di espansione	16mm
71600-18M	Testina di espansione	18mm
71600-22M	Testina di espansione	22mm
71600-28M	Testina di espansione	28mm
DISPONIBILE ANCHE		
71600-002	Testina di espansione	1/4"
71680	Accessorio per flangiatura idraulico • Permette di eseguire flangie OEM con la semplice pressione della maniglia	

PRECAUÇÕES

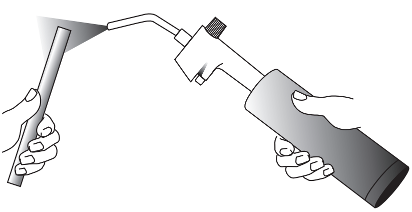
Use luvas de proteção



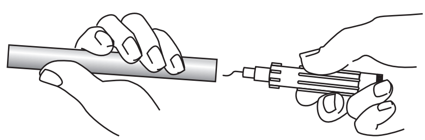
NUNCA UTILIZE O EXPANSOR SEM O TUBO NA CASTANHA DE EXPANSÃO



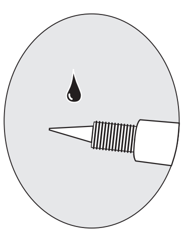
1) Utilize tubos de cobre macio ou aplique calor (recozimento) a seção de tubo de cobre rígido de ser expandido.



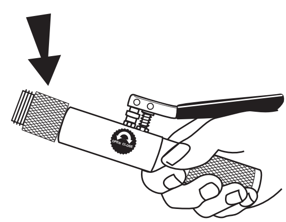
2) Rebarbe as paredes internas dos tubos completamente e certifique-se o tubo vai encaixar facilmente sobre a cabeça da castanha expansora.
NÃO FORCE O TUBO SOBRE O CABEÇA DO EXPANSOR!



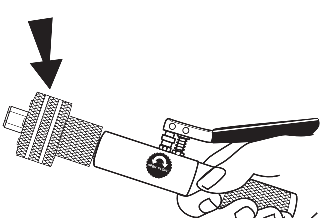
3) Aplique lubrificante (graxa de preferência) no cone antes de usar.



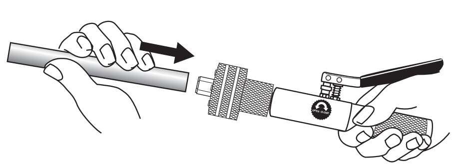
4) Rosqueie o adaptador no eixo da bomba até o final da rosca.



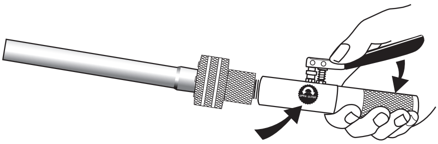
5) Rosqueie a cabeça expansora selecionada sobre o adaptador.



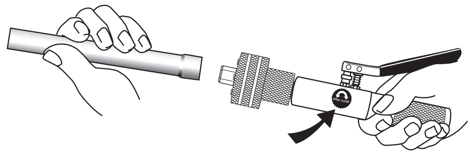
6) Coloque o tubo na cabeça do expansor. Certifique-se de que a cabeça do expansor fique livre dentro do tubo. **AVISO !! Não force ou torça o tubo enquanto você está colocando o tubo na cabeça de expansão.**



7) Aperte o botão da válvula de alívio e pression o punho da bomba até que a tubulação seja expandida e a alavanca da bomba torne-se firme.



8) Solte o botão da válvula de alívio para liberar a tubulação expandida. Se o tubo não for liberado da cabeça devido à deformação do tubo ou rebarbas, retire o adaptador e castanha expansora (em conjunto) a partir do corpo da bomba.



LISTA DE PEÇAS		
CÓDIGO	**DESCRIÇÃO**	**TUBO O.D.**
71600-03	Castanha Expansora	3/8”
71600-04	Castanha Expansora	1/2”
71600-05	Castanha Expansora	5/8”
71600-06	Castanha Expansora	3/4”
71600-07	Castanha Expansora	7/8”
71600-08	Castanha Expansora	1”
71600-09	Castanha Expansora	1 1/8”
71600-11	Castanha Expansora	1 3/8”
71600-13	Castanha Expansora	1 5/8”
71600-17	Castanha Expansora	2 1/8”
71601-A	Expansor Hidráulico	
71601-D	Adaptador para 71601	
71685	Rebarbador interno - externo	
71600-PB	Caixa moldada para 71600 & 71650	
METRICO		
CÓDIGO	**DESCRIÇÃO**	**TUBO O.D.**
71600-10M	Castanha Expansora	10mm
71600-12M	Castanha Expansora	12mm
71600-15M	Castanha Expansora	15mm
71600-16M	Castanha Expansora	16mm
71600-18M	Castanha Expansora	18mm
71600-22M	Castanha Expansora	22mm
71600-28M	Castanha Expansora	28mm
TAMBÉM DISPONIVEL		
71600-002	Castanha Expansora	1/4”
71680	Hydraulic Flaring Accessory Acessorio de flange hidraulica • Produz flanges industriais com apenas uma bombear manual	

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